

Appendix

For the preparation of samples, the following materials were used.

1. 10x Hepes-Puffer (10 mM 1,4-Dithio-DL-Threitol (Fluka), 100 mM MgCl_2 (Merck) und 500 mM 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid (Fluka))
2. 1 % w/v Pluronic F-127 (Sigma)
3. 50 % w/v Sucrose (Merck)
4. Ink Königsblau (100 %) Nr. 4001 (Pelikan)
5. 30 μM 5-TAMRA-labelled Peptide* (Merck) in 100 % DMSO; see Fig. 3
6. 5-Carboxytetramethylrhodamine (5-TAMRA) (Molecular Probes)

The following samples were tested:

- | | |
|-------------------|---------------------------------------------------------|
| 1. „Buffer“ | 1x Hepes, 0.05 % Pluronic, 10 nM Peptide* |
| 2. „2 % Sucrose“ | 1x Hepes, 0.05 % Pluronic, 10 nM Peptide*, 2 % Sucrose |
| 3. „10 % Sucrose“ | 1x Hepes, 0.05 % Pluronic, 10 nM Peptide*, 10 % Sucrose |
| 4. „0.4 % Ink“ | 1x Hepes, 0.05 % Pluronic, 10 nM Peptide*, 0.4 % Ink |
| 5. „2 % Ink“ | 1x Hepes, 0.05 % Pluronic, 10 nM Peptide*, 2 % Ink |
| | |
| 6. „Buffer“ | 1x Hepes, 0.05 % Pluronic, 5 nM TAMRA |
| 7. „2 % Sucrose“ | 1x Hepes, 0.05 % Pluronic, 5 nM TAMRA, 2 % Sucrose |
| 8. „10 % Sucrose“ | 1x Hepes, 0.05 % Pluronic, 5 nM TAMRA, 10 % Sucrose |
| 9. „0.4 % Ink“ | 1x Hepes, 0.05 % Pluronic, 5 nM TAMRA, 0.4 % Ink |
| 10. „2 % Ink“ | 1x Hepes, 0.05 % Pluronic, 5 nM TAMRA, 2 % Ink |

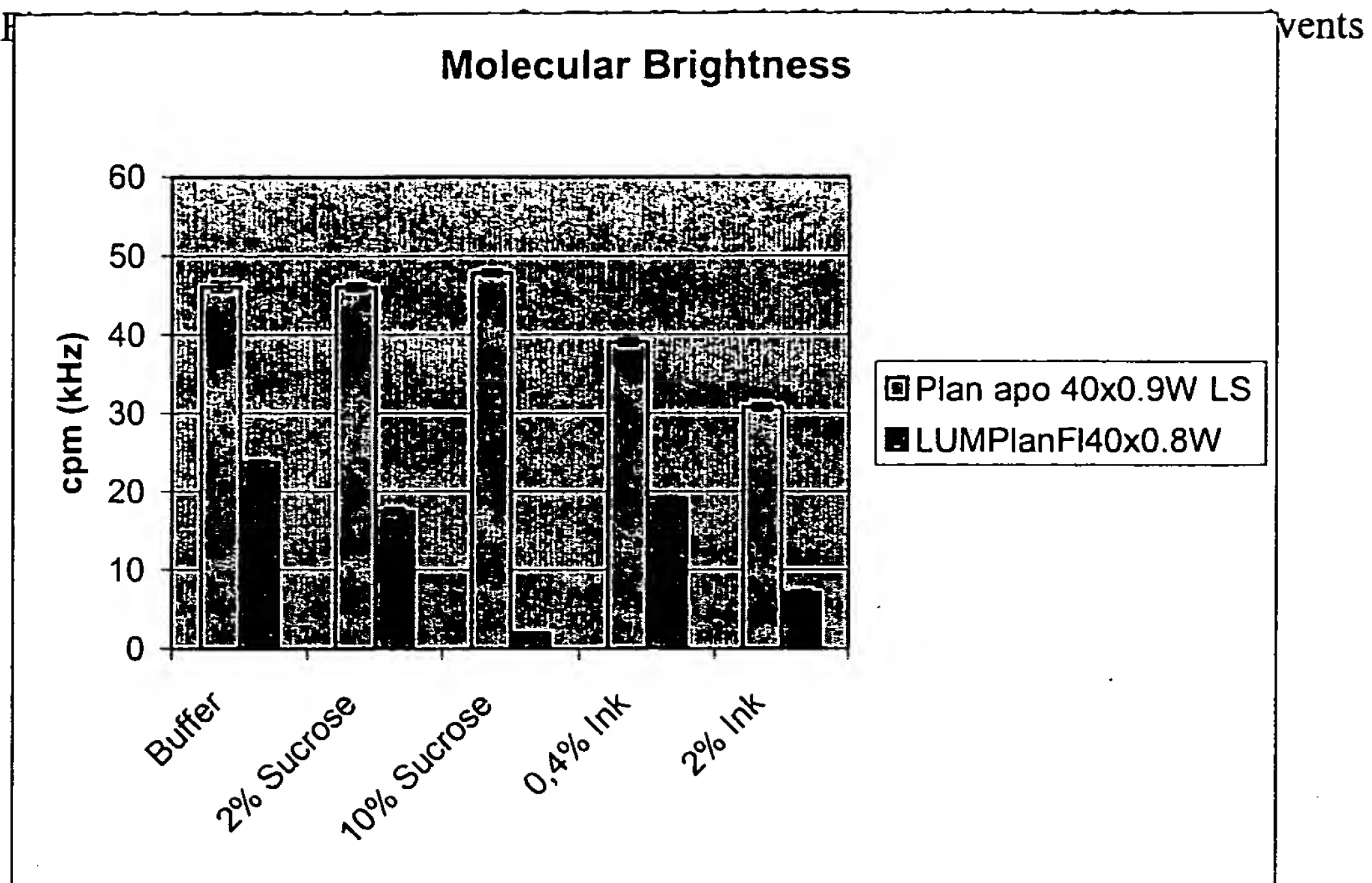


Fig. 1

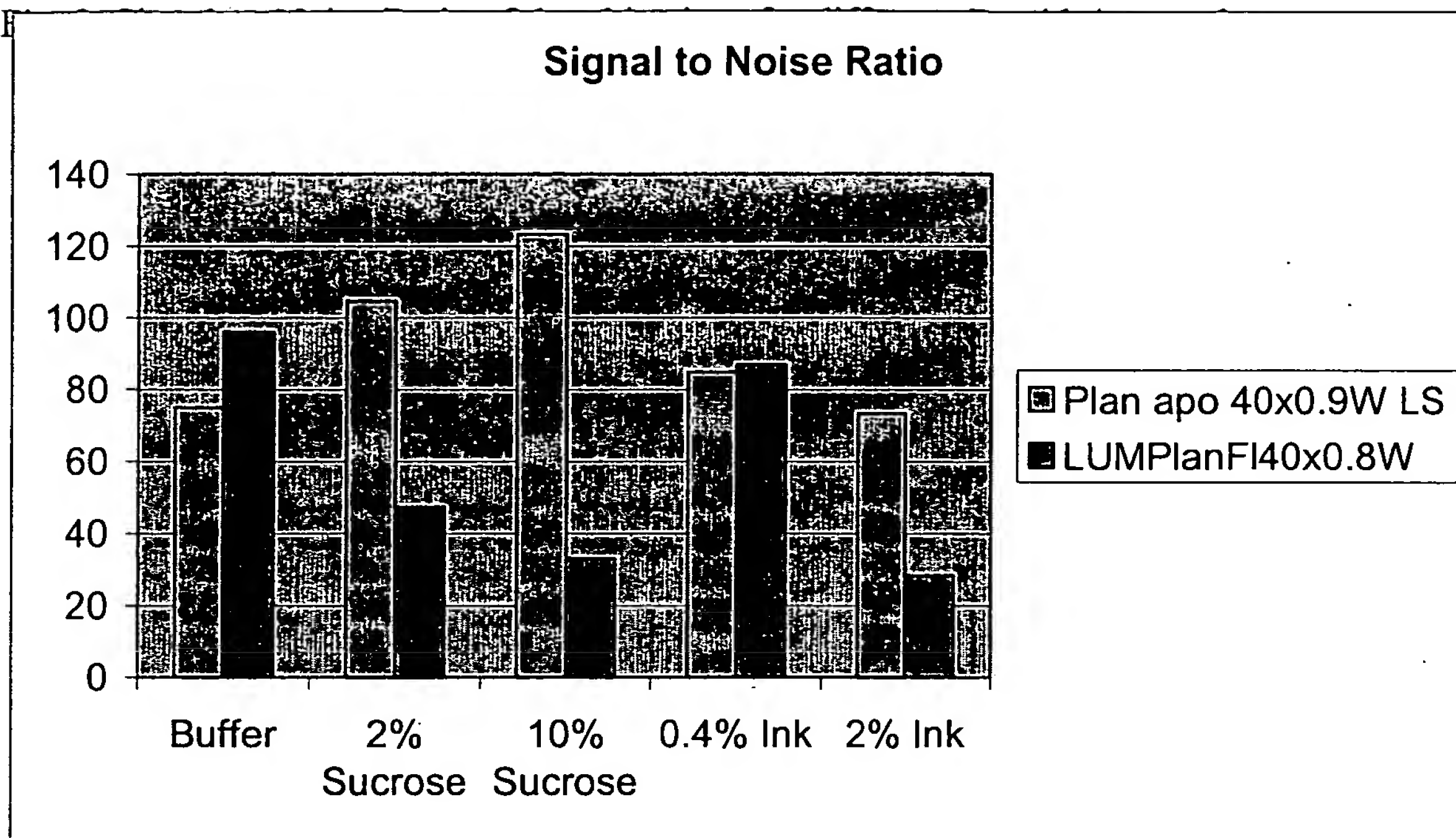


Fig.2

TABLE 1

**Olympus PlanApo 40x 0.9 W LS: measured volume arranged at a distance of 420 μm
from the laser focussing optic**

| Buffer | cpm (kHz) | STD (cpm) | Diff (μs) | STD (Di |
|----------|-----------|-----------|------------------------|---------|
| TAMRA | 48.84 | 0.344 | 73.20 | 1.2 |
| Peptide* | 46.13 | 0.62 | 159.7 | 3.8 |

| 2 % Sucrose | cpm (kHz) | STD (cpm) | Diff (μs) | STD (Di |
|-------------|-----------|-----------|------------------------|---------|
| TAMRA | 48.24 | 0.42 | 77.7 | 1.9 |
| Peptide* | 46.10 | 0.44 | 163.7 | 5.2 |

| 10 % Sucrose | cpm (kHz) | STD (cpm) | Diff (μs) | STD (Di |
|--------------|-----------|-----------|------------------------|---------|
| TAMRA | 51.38 | 0.62 | 99.1 | 3.2 |
| Peptide* | 47.84 | 0.39 | 208.7 | 5.4 |

| 0.4 % Ink | cpm (kHz) | STD (cpm) | Diff (μs) | STD (Di |
|-----------|-----------|-----------|------------------------|---------|
| TAMRA | 39.42 | 0.25 | 76.8 | 3.3 |
| Peptide* | 39.06 | 0.46 | 160.0 | 4.7 |

| 2 % Ink | cpm (kHz) | STD (cpm) | Diff (μs) | STD (Di |
|----------|-----------|-----------|------------------------|---------|
| TAMRA | 27.8 | 0.5 | 75.5 | 3.6 |
| Peptide* | 30.8 | 0.42 | 151.4 | 3.4 |

D

TABLE 2

Olympus LUMPlanFI 40x 0.8 W; measured volume arranged at a distance of 3300 μm
from the laser focussing optic

| Buffer | cpm (kHz) | STD (cpm) | Diff (μs) | STD (Di |
|----------|-----------|-----------|------------------------|---------|
| TAMRA | 24.71 | 0.86 | 82.60 | 5.9 |
| Peptide* | 23.75 | 0.25 | 172.5 | 7.3 |

| 2 % Sucrose | cpm (kHz) | STD (cpm) | Diff (μs) | STD (Di |
|-------------|-----------|-----------|------------------------|---------|
| TAMRA | 16.93 | 0.64 | 96.0 | 7.4 |
| Peptide* | 17.49 | 0.37 | 196.5 | 15.1 |

| 10 % Sucrose | cpm (kHz) | STD (cpm) | Diff (μs) | STD (Di |
|--------------|-----------|-----------|------------------------|---------|
| TAMRA | 1.97 | 0.17 | - | - |
| Peptide* | 1.98 | 0.06 | - | - |

| 0.4 % Ink | cpm (kHz) | STD (cpm) | Diff (μs) | STD (Di |
|-----------|-----------|-----------|------------------------|---------|
| TAMRA | 19.30 | 0.62 | 78.4 | 2.0 |
| Peptide* | 19.16 | 0.22 | 169.0 | 5.2 |

| 2 % Ink | cpm (kHz) | STD (cpm) | Diff (μs) | STD (Di |
|----------|-----------|-----------|------------------------|---------|
| TAMRA | 5.53 | 0.94 | 107.5 | 42.8 |
| Peptide* | 7.1 | 0.25 | 162.7 | 13 |